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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/816,333	03/26/2001	Yatin R. Acharya	F0691	6324

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EXAMINER	
WONG, BLANCHE	
ART UNIT	**PAPER NUMBER**
2616	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/816,333	ACHARYA ET AL.	
	Examiner	Art Unit	
	Blanche Wong	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8,13,15,21 and 22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *8,13 and 22* is/are allowed.

6)☒ Claim(s) *15 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The finality set forth in the last office action is hereby withdrawn.

2. In view of the Appeal Brief filed on January 29, 2007, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Response to Arguments

3. Applicant's arguments with respect to claim 15 have been considered but are moot in view of the new ground(s) of rejection.

4. The allowability of claim 21 has been withdrawn. Upon further consideration, a new ground(s) of rejection is made in view of Ma et al. (U.S. 6,798,743).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 15 and 21** are rejected under 35 U.S.C. 102(e) as being anticipated by Ma et al. (U.S. Pat No. 6,798,743).

With regard to claim 15, Ma discloses a routing device, comprising:

a plurality of input ports **(input interfaces 701 in Fig. 7, col. 9, line 30; and input interfaces 801 in Fig. 8A)** configured to receive a plurality of data frames **(queued packets, col. 9, line 32)**, each of the received data frames specifying at least one of a plurality of class of service **(QoS level) (each queued packet may have a different associated priority level which specifies the particular QoS level, col. 9, lines 33-35)**;

a plurality of output ports **(output interface buffer 720 in Fig. 7, and output interface buffer 820 in Fig. 8A)** configured to transmit at least some of the data frames;

a plurality of priority queues **(QoS Output Queues 710 in Fig. 7, col. 9, lines 63-64; and QoS Output Queues 810 in Fig. 8A)** associated with each of the output ports;

a memory **(intermediate data structure 814 in Fig. 8A, col. 11, line 61)** configured to store a plurality of priority levels **(priority levels, col. 12, line 3)**, one of each of the plurality of classes of service **(delay sensitive) (priority level ... indicate delay-sensitive, col. 12, line 7)**, wherein the memory is configured to be preprogrammed with the plurality of priority levels by a host device **(router) (priority levels supported by the router, col. 12, line 3)**;

an action generator **(intermediate data structure 814 in Fig. 8A, col. 11, line 61)** including:

an action memory **(an array of queues, col. 11, line 67)** configured to store a plurality of entries,

a decoder **(intermediate data structure 814 in Fig. 8A, col. 11, line 61)** configured to identify one of the entries in the action memory for each of the data frames **(identify whether packets have priority level P <> 1, col. 12, lines 3-26)**, and

a tag generator **(intermediate data structure 814 in Fig. 8A, col. 11, line 61)** configured to generate an action tag **(index) (priority value of a packet as an index to determine the particular queue to access in the intermediate queue array, col. 12, lines 22-23)** based on the entry identified for each of the data frames **(priority values of packets)**; and

a port vector queue **(QoS Output Queues 710 in Fig. 7, col. 9, lines 63-64; and QoS Output Queues 810 in Fig. 8A)** configured to access the memory **(access in the intermediate queue array) (priority value of a packet as an index to determine the particular queue to access in the intermediate queue array, col. 12, lines 22-23)** to

retrieve one of the stored priority levels **(priority value of a packet) (priority value of a packet as an index to determine the particular queue to access in the intermediate queue array, col. 12, lines 22-23)** that corresponds to a class of service **(delay sensitive) (priority level ... indicate delay-sensitive, col. 12, line 7)** specified by each of the data frames **(packets)** using the action tag **(index) (priority value of a packet as an index to determine the particular queue to access in the intermediate queue array, col. 12, lines 22-23)** from the action generator **(intermediate data structure 814 in Fig. 8A, col. 11, line 61)** for the data frame **(packets)** and identify one of the priority queues **(QoS Output Queues 710 in Fig. 7, col. 9, lines 63-64; and QoS Output Queues 810 in Fig. 8A)** based on the identified priority level information for the data frame **(identify whether packets have priority level P <> 1, col. 12, lines 3-26, and priority value of a packet as an index to determine the particular queue to access in the intermediate queue array, col. 12, lines 22-23)**.

With regard to claim 21, Ma discloses a routing device, comprising:

a plurality of input ports **(input interfaces 701 in Fig. 7, col. 9, line 30; and input interfaces 801 in Fig. 8A)** configured to receive a plurality of data frames **(queued packets, col. 9, line 32)**, each of the received data frames specifying at least one of a plurality of class of service **(QoS level) (each queued packet may have a different associated priority level which specifies the particular QoS level, col. 9, lines 33-35)**;

a plurality of output ports **(output interface buffer 720 in Fig. 7, and output interface buffer 820 in Fig. 8A)** configured to transmit at least some of the data frames;

a plurality of priority queues **(QoS Output Queues 710 in Fig. 7, col. 9, lines 63-64; and QoS Output Queues 810 in Fig. 8A)** associated with each of the output ports;

a memory **(intermediate data structure 814 in Fig. 8A, col. 11, line 61)** configured to store a plurality of priority levels **(priority levels, col. 12, line 3)**, one of each of the plurality of classes of service **(delay sensitive) (priority level ... indicate delay-sensitive, col. 12, line 7)**, wherein the memory is configured to be preprogrammed with the plurality of priority levels by a host device **(router) (priority levels supported by the router, col. 12, line 3)**;

an action generator **(intermediate data structure 814 in Fig. 8A, col. 11, line 61)** including:

an action memory **(an array of queues, col. 11, line 67)** configured to store a plurality of entries,

a decoder **(intermediate data structure 814 in Fig. 8A, col. 11, line 61)** configured to identify one of the entries in the action memory for each of the data frames **(identify whether packets have priority level P <> 1, col. 12, lines 3-26)**, and

a tag generator **(intermediate data structure 814 in Fig. 8A, col. 11, line 61)** configured to generate an action tag **(index) (priority value of a packet as an index to determine the particular queue to access in the intermediate**

queue array, col. 12, lines 22-23) based on the entry identified for each of the data frames **(priority values of packets)**; and

a port vector queue **(QoS Output Queues 710 in Fig. 7, col. 9, lines 63-64; and QoS Output Queues 810 in Fig. 8A)** configured to access the memory **(access in the intermediate queue array) (priority value of a packet as an index to determine the particular queue to access in the intermediate queue array, col. 12, lines 22-23)** to retrieve one of the stored priority levels **(priority value of a packet) (priority value of a packet as an index to determine the particular queue to access in the intermediate queue array, col. 12, lines 22-23)** that corresponds to a class of service **(delay sensitive) (priority level ... indicate delay-sensitive, col. 12, line 7)** specified by each of the data frames **(packets)** using the action tag **(index) (priority value of a packet as an index to determine the particular queue to access in the intermediate queue array, col. 12, lines 22-23)** from the action generator **(intermediate data structure 814 in Fig. 8A, col. 11, line 61)** for the data frame **(packets)** and identify one of the priority queues **(QoS Output Queues 710 in Fig. 7, col. 9, lines 63-64; and QoS Output Queues 810 in Fig. 8A)** based on the identified priority level information for the data frame **(identify whether packets have priority level P <> 1, col. 12, lines 3-26, and priority value of a packet as an index to determine the particular queue to access in the intermediate queue array, col. 12, lines 22-23)**; and

a port filter **(intermediate data structure 814 in Fig. 8A, col. 11, line 61)** configured to apply policy rules **(P<>1) (identify whether packets have priority level**

P <> 1, col. 12, lines 3-26) to the data frames **(packets)** to identify one or more policy equations **(P>1 or P<1) corresponding** to the data frames **(packets)**,

wherein the decoder **(intermediate data structure 814 in Fig. 8A, col. 11, line 61)** is configured to receive the one or more policy equations **(P>1 or P<1) (identify whether packets have priority level P <> 1, col. 12, lines 3-26)** corresponding to one of the data frames from the port filter **(intermediate data structure 814 in Fig. 8A, col. 11, line 61)**, select one of the one or more policy equations **(P>1 or P<1)**, and use the selected policy equality to identify one of the entries **(access the intermediate queue array) (priority value of a packet as an index to determine the particular queue to access in the intermediate queue array, col. 12, lines 22-23)** in the action memory **(intermediate data structure 814 in Fig. 8A, col. 11, line 61)**.

Allowable Subject Matter

7. **Claims 8,13 and 22** are allowed.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 571-272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BW
May 5, 2007

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